

Why GREY HAIR

OFE 1987



CHADWICK
E
WELLONS

THE PROTEIN IN HUMAN HAIR CONTAINS A SUBSTANCE CALLED MELANIN, THE PIGMENT WHICH DARKENS HAIR. MELANIN STAYS THE SAME NO MATTER WHAT THE HAIR COLOR IS. DIFFERENT HAIR COLORS RESULT FROM DIFFERENT AMOUNTS OF MELANIN, THE MORE OF THE PIGMENT - THE DARKER THE HAIR. AS A PERSON AGES THE PRODUCTION OF MELANIN BEGINS TO DECREASE AND **GREY BEGINS TO FORM.**

OUR FASCINATING EARTH

By Philip Seff, Ph.D.

THE PROFESSOR WHO WANTED TO GO **Fishing**

OFE 1987

CHADWICK
WELLS



WHEN
AN ANIMAL
DIES AND UNDERGOES
NATURAL BURIAL, ITS
ORGANIC MATERIAL
MAY BE REPLACED
BY INORGANIC
SUBSTANCES,
USUALLY SILICA.

THUS, DURING THE MILLENIA,
THE ANIMAL BECOMES PRESERVED. AT A
LEADING UNIVERSITY A PROSPECTOR RE-
CENTLY BROUGHT 6 PETRIFIED FISH TO A
GEOLOGY PROFESSOR. THE FISH HAD BEEN
BEAUTIFULLY PETRIFIED IN **PRECIOUS
OPAL**. THE EYES ALONE WERE ENORMOUS
PRICELESS GEMSTONES. THE DISCOVERY
SITE REMAINS A CLOSELY **GUARDED
SECRET**.



"I DON'T SOUND LIKE THAT"

WHEN A PERSON LISTENS TO A TAPE OF HIS OWN VOICE, THE SOUND IS ALWAYS DIFFERENT FROM WHAT HE HEARS WHILE SPEAKING. SPEECH THAT OTHERS HEAR IS A VIBRATION COMING FROM THE LARYNX AND CONDUCTED THROUGH AIR. THE SPEAKER HEARS VIBRATIONS DIRECTED THROUGH **FLUIDS** OF THE INNER EAR. SINCE SOUNDS TRANSMIT DIFFERENTLY THROUGH AIR AND LIQUID, YOUR TAPE RECORDER ISN'T LYING; THE SOUNDS ARE DIFFERENT!

OUR FASCINATING EARTH

By Philip Seff, Ph.D.

Almost

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WINCIBLE



THE LONGEVITY OF THE CALIFORNIA SEQUOIA IS DUE LARGELY TO ITS BARK WHICH IS SO THICK, ALMOST **2 FEET**, AND SO HIGHLY FLAVORED WITH TANNIN IT IS INVULNERABLE TO ATTACK BY INSECTS. THE SPONGY, FIBROUS BARK IS NEARLY AS FIREPROOF AS **ASBESTOS**. ONE TREE STRUCK BY LIGHTNING IN JULY SMOLDERED WITHOUT APPARENT DAMAGE UNTIL A SNOWSTORM PUT OUT THE FIRE IN **OCTOBER!**



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THE *Big Sleep*

THERE IS, SURPRISINGLY, ONLY ONE ARCTIC ANIMAL THAT **TRULY HIBERNATES**--- THE ARCTIC GROUND SQUIRREL. IN OCTOBER IT BUILDS A SPECIAL DEN AND GOES INTO A LONG, DEEP SLEEP LASTING ABOUT 7 MONTHS. DURING THAT TIME BODY TEMPERATURES DROP FROM 97.5° F. TO 62.6° F. BREATHING DROPS FROM 60 TO ONLY 2 OR 3 BREATHS PER MINUTE, AND THE HEART BEATS ONLY ONCE EVERY 2 OR 3 MINUTES. THIS IS **REAL HIBERNATION!**

OUR FASCINATING EARTH

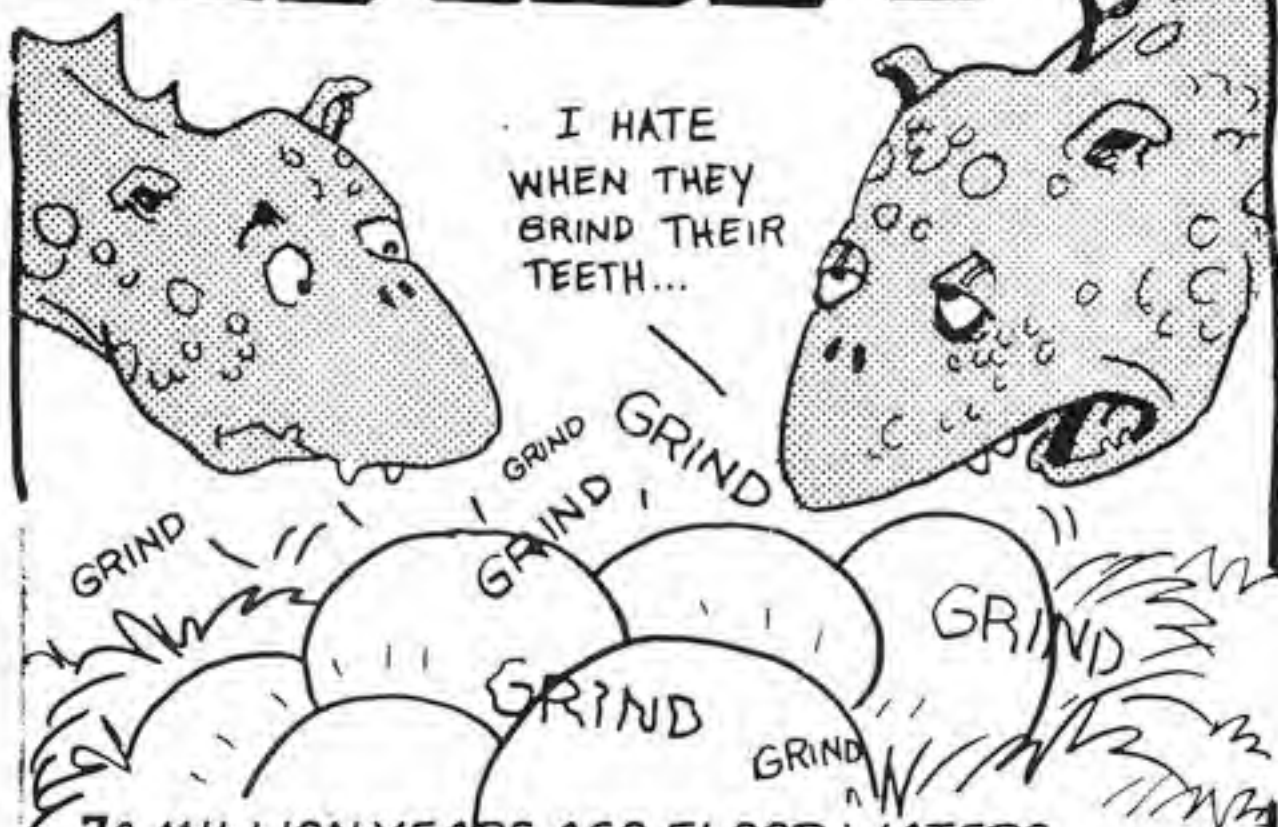
By Philip Seff, Ph.D.

Fossil

WABBIT

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CHADWICK
& WELLS



70 MILLION YEARS AGO FLOOD WATERS SWEEPED THROUGH A DINOSAUR NEST, CRACKING OPEN 2 OF THE EGGS AND SPILLING THE PARTIALLY FORMED REPTILES ONTO THE FLOOR BESIDE THEIR STILL INTACT SIBLINGS. SCIENTISTS UNEARTHED THE ENTIRE NEST, INCLUDING THE TWO EMBRYOS, IN SOUTHERN ALBERTA. UPON EXAMINING THE SKELETONS, THEY NOTED THE TEETH WERE WORN SMOOTH. EVIDENTLY THE BABIES GROUND THEIR TEETH WHILE STILL WITHIN THE EGG!

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Smoking FACTS

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THE
AVERAGE
SMOKER

INHALES ABOUT 1 1/2

PACKS OF CIGARETTES PER DAY. PERHAPS THIS DOES NOT SEEM LIKE MUCH, BUT THAT PERSON WILL SMOKE ALMOST **11,000 CIGARETTES PER YEAR**. THE HEAVY SMOKER MAY CONSUME AS MANY AS 30,000 CIGARETTES PER YEAR. INCREDIBLY, THE NON - STOP CHAIN SMOKER USES ALMOST 40,000 CIGARETTES ANNUALLY. NEITHER LIFE EXPECTANCY NOR LIFE QUALITY FOR THESE PEOPLE IS **CONSIDERED GREAT!**

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HURRICANES

---A BLESSING?

BOY! I BET
THIS'LL REALLY
HELP THE WATER
SHORTAGE..!

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DESPITE THEIR DESTRUCTIVE POWER, HURRICANES ARE A PARADOXICAL **NECESSITY**. THEY HELP MAINTAIN HEAT BALANCE WORLDWIDE BY ACTING AS A SAFETY VALVE TO RELEASE EXCESS ENERGY. THEY LIFT MILLIONS OF TONS OF SEA WATER, DROPPING IT ON LAND AS SALT-FREE WATER, THUS REVIVING CROPS AND REPLENISHING SUPPLIES OF STORAGE WATER. THE HURRICANE OF JUNE, 1945 RELIEVED ONE OF THE **WORST DROUGHTS** IN FLORIDA'S HISTORY!

OUR FASCINATING EARTH

By Philip Seff, Ph.D.

THE POLAR TIGER



FOSSIL EVIDENCE INDICATES THE TIGER ORIGINATED AS A **COLD WEATHER ANIMAL**. SCIENTISTS ARE STUDYING THE SIBERIAN TIGER INTENTLY BECAUSE IT REFLECTS THE LIVING HABITS OF THE ANCESTRAL TIGER. THIS ANIMAL IS AS RESISTANT TO WINTER COLD AS THE **POLAR BEAR**, AND VERY UNCOMFORTABLE DURING THE SUMMER HEAT. SCIENTISTS BELIEVE THE TIGER'S COLONIZATION OF TROPICAL AREAS IS A RELATIVELY RECENT EVENT IN THE EVOLUTIONARY TIME SCALE.

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CHADWICK
&
WELLONS

OUR FASCINATING EARTH

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OLDEST
KNOWN

FLYING

REPTILE

CHADWICK
&
WELLONS

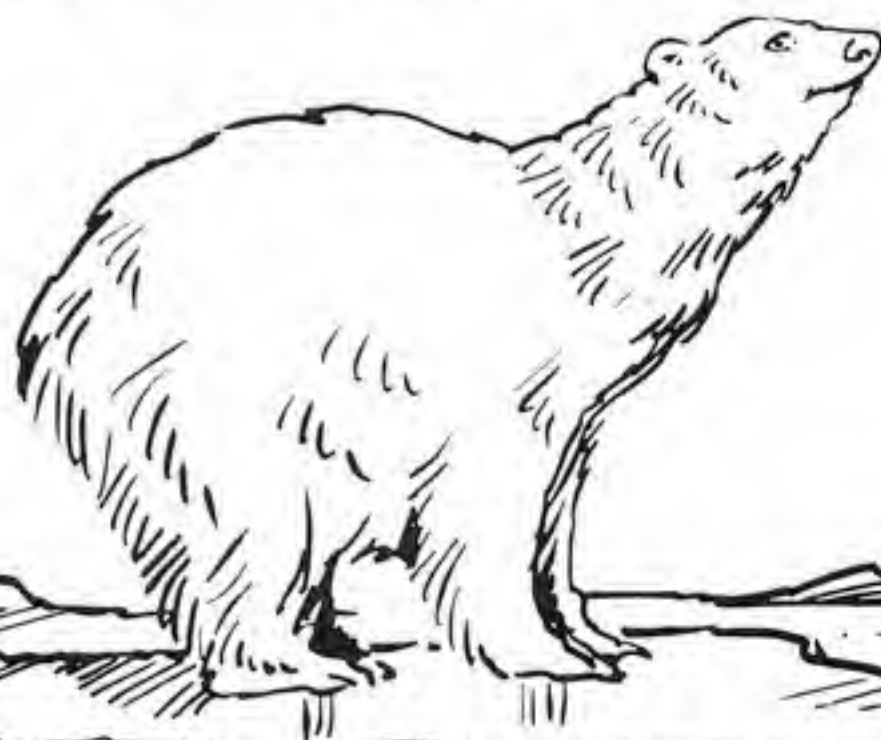
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COMPETITION FOR THE
SKIES BEGAN ABOUT 200
MILLION YEARS AGO.

DIMORPHODON, THE
OLDEST KNOWN REPTILE
SPECIES TO ACHIEVE TRUE FLIGHT,
WAS THE SIZE OF A LARGE HAWK.
IT HAD A RATHER LARGE HEAD AND WAS

PROBABLY CARNIVOROUS. SO BEGAN A LONG
SUCCESSFUL GROUP OF FLYING REPTILES, THE
PTEROSAURS, WHICH PERSISTED FOR ABOUT
100 MILLION YEARS, AND EVOLVED SPECIES WITH
WINGSPANS UP TO 60 FEET!



POLAR BEAR

A MARINE MAMMAL?

MANY ZOOLOGISTS CONSIDER THE POLAR BEAR TO BE MORE OF A MARINE MAMMAL THAN A LAND CREATURE. THE ANIMAL SPENDS A GREAT AMOUNT OF ITS TIME IN THE WATER. IT CAN SWIM LIKE A SEAL, WITHOUT USING ITS HIND LEGS. POLAR BEARS HAVE BEEN SEEN 300 MILES AT SEA, SWIMMING TIRELESSLY WITH CUBS, MAKING BETTER THAN THREE MILES PER HOUR. THEY SEEM TO KNOW UNFAILINGLY WHERE THEY WERE GOING!

GONE

BUT NOT FORGOTTEN

CHADWICK
WELLONS

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THE DODO

WAS AN AWKWARD,
TURKEY-SIZED BIRD
DISCOVERED ON THE
ISLAND OF MAURITIUS IN
1507. BEING FLIGHTLESS, EASILY
CAUGHT, AND SWEET TASTING, IT
WAS VULNERABLE TO
PREDATORY SAILORS. SHIPS
OFTEN STOPPED AT MAURITIUS
TO REPLENISH THEIR LARDERS.

THE
BIRDS
WERE SO
INDISCRIM-
INATELY
KILLED THAT
FEWER
THAN 200
YEARS

AFTER THEIR DISCOVERY,
DODOS WERE

COMPLETELY EXTINCT. "DEAD AS A DODO"
IS NOW A COMMON EXPRESSION.



SAHARAN ART GALLERY

CHADWICK
WELLONS

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IN 1850
HEINRICH
BARTH,
A GERMAN
EXPLORER
WITH
A NOMADIC
CARAVAN, MADE
CAMP IN THE
SAHARA DESERT.

LOOKING AT NEARBY SANDSTONE
CLIFFS, BARTH NOTICED NUMEROUS
CARVINGS OF GRASSLAND ANIMALS
WHICH ARE COMPLETELY ALIEN TO THE
SAHARA TODAY. HE HAD DISCOVERED AN
ANCIENT ART GALLERY WHICH REFLECTED
CONDITIONS THAT EXISTED IN THE AREA OVER
9000 YEARS AGO, WHEN THE SAHARA
WAS GREEN AND FERTILE!

OUR FASCINATING EARTH

Phil & Nancy Seff

PALEOLITHIC BISON HUNTERS

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LATE STONE AGE MAN OF SPAIN, 15,000 B.C., CLEARLY DEMONSTRATED A PREFERENCE FOR HUNTING THE BISON. THE EXQUISITE CAVE PAINTINGS OF ALTAMIRA SUGGEST GREAT RESPECT FOR THE ANIMAL. AUTHORITIES BELIEVE THEIR MOST EFFECTIVE HUNTING METHOD WAS TO SEPARATE A BISON FROM THE HERD AND DRIVE IT INTO A SWAMP OR A BLIND VALLEY. HERE IT COULD BE KILLED WITH A MINIMUM OF DANGER.

OUR FASCINATING EARTH

OUR FASCINATING EARTH

Phil & Nancy Seff

WHY ESKIMOS

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SURVIVE

ESKIMOS LIVE IN THE ARCTIC REGIONS WHERE TEMPERATURES RARELY GO ABOVE FREEZING.

BECAUSE
THEY ARE
SHORT,



AVERAGE 5' 2", THEY LOSE LITTLE BODY HEAT. THEY BURN FOOD RAPIDLY, WHICH REGULATES BODY TEMPERATURE, AND BLOOD VESSELS ARE ARRANGED SO THAT MORE BLOOD FLOWS TO EXPOSED PARTS SUCH AS HANDS AND FACE. THUS, ESKIMOS ARE ABLE TO WORK BARE-HANDED IN SUBZERO TEMPERATURES WITHOUT ANY COMPLICATIONS!

CHADWICK
&
WELLS

WHEN ZEUS LAUGHS

THE ANCIENT GREEKS EXPLAINED LIGHTNING AS THE BOLTS HURLED BY THE GOD ZEUS, AND THEY WORSHIPED THE GROUND WHERE IT STRUCK. **S**OME OF THE FREAK ACTIONS RESULTING FROM LIGHTNING STRIKES COULD ALMOST MAKE ONE BELIEVE ZEUS IS ACTUALLY AT PLAY.



LIGHTNING ONCE SET FIRE TO A BUILDING, THEN STRUCK A NEARBY FIRE ALARM THUS CALLING OUT THE FIRE BRIGADE TO FIGHT THE FIRE. PEOPLE STRUCK BY LIGHTNING HAVE AT TIMES BEEN RELATIVELY UNHARMED BUT LEFT STARK NAKED WITH THEIR CLOTHES SCATTERED IN FRAGMENTS OVER A WIDE AREA.

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THE U.S. NATIONAL SAFETY COUNCIL REPORTED A SOLDIER WHO WAS WELDED INTO HIS SLEEPING BAG WHEN LIGHTNING STRUCK THE ZIPPER. DURING A RECENT STORM LIGHTNING CAUSED AN ELECTRIC CLOCK TO STOP. MINUTES LATER IT STARTED AGAIN --- BUT THE HANDS WENT BACKWARD AT TWICE THE NORMAL SPEED! 2/7

Our Fascinating EARTH

By PHILIP SEFF PhD & DAVID C BAER II

BATTLEGROUND OF THE GODS

WHEN MOUNT MAZAMA
IN OREGON DRAINED
ITSELF OF LAVA AND
COLLAPSED, IT FORMED
WHAT IS NOW CALLED
CRATER LAKE NATIONAL
PARK. EVIDENCE INDICATES
THERE WERE HUMAN
WITNESSES TO THIS EVENT.
THE KLAMATH INDIANS TELL
OF EARTH-SHATTERING
EXPLOSIONS AND
MOUNTAINS THAT SPEW
FIRE AND CALL THE
AREA A BATTLEGROUND
OF THE GODS.

ARCHEOLOGICAL
EVIDENCE SUPPORTS
THE LEGEND, AS
ARTIFACTS HAVE BEEN
FOUND BENEATH THE
VOLCANIC ASH.

